

REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of November 9, 2011 is respectfully requested.

By this Amendment, claims 1, 2, 6, 16, 24 and 25 have been amended. Thus, claims 1-25 are currently pending in the application, with claims 6-8, 10, 16-19 and 23 having been withdrawn from consideration. No new matter has been added by these amendments. In particular, it is noted that the amendments to the claims are supported at least by: page 6, line 20; page 7, lines 1-3; and Figs. 1-3 of the original disclosure.

On page 2 of the Office Action, the Examiner objected to the drawings as being improper. In particular, the Examiner noted that Figs. 8-9 should be labeled as "Prior Art." In this regard, it is noted that Figs. 8 and 9 were labeled as "Prior Art" in the preliminary amendment filed on July 5, 2006. Accordingly, it is respectfully submitted that the Examiner's objection to Figs. 8 and 9 is moot.

On pages 2-3 of the Office Action, the Examiner objected to the specification as amended on August 24, 2011. In particular, the Examiner indicates that Fig. 10 which was newly submitted on August 24, 2011, as well as the amendments to the specification regarding Fig. 10, includes specific details, positioning and dimensioning which are not supported by the original disclosure. In this regard, the Examiner also indicates that the amendments to the specification appear to suggest that Fig. 10 is prior art, but notes that Fig. 10 is not labeled as "Prior Art," and also notes that no evidence (*e.g.*, a patent document) has been cited in order to support that assertion that Fig. 10 shows prior art.

In this regard, it is noted that Fig. 10 is not new matter, and only shows the aspects of a most common apparatus known in the art. In order to overcome this objection, it is first noted that a replacement Fig. 10 has been submitted under separate cover along with this amendment. It is noted that the replacement Fig. 10 is labeled as "Prior Art." No new matter has been added by the amendment to Fig. 10. Therefore, entry of the replacement Fig. 10 is respectfully requested.

In addition, Applicants note that four references (*i.e.*, JP 05-154781, JP 06-278063, JP 09-225870 and JP 2000-288966) have been cited in an IDS submitted concurrently herewith as evidence indicating that the features of Fig. 10 are common in the art, and are not new matter. Accordingly, in view of the submission of the replacement Fig. 10 and the four above-identified

references, it is respectfully submitted that the Examiner's objection is not applicable to the specification as amended on August 24, 2011.

On pages 3-5 of the Office Action, the Examiner rejected claims 1, 5, 12 and 24 under 35 U.S.C. § 103(a) as being unpatentable over JP 2002-239967 in view of Miyasaka et al. (US 6,394,052) and Gutknecht (US 4,932,313). On pages 5-8 of the Office Action, the Examiner rejected claims 2, 4, 9, 15 and 21 and 25 under 35 U.S.C. § 103(a) as being unpatentable over JP 2002-239967 in view of Miyasaka and Terzian et al. (US 3,648,408). Further, on pages 8-13 of the Office Action, the Examiner rejected claims 3, 11, 13, 14, 20 and 22 under 35 U.S.C. § 103(a) as being unpatentable over JP 2002-239967 and Miyasaka in view of the additionally applied prior art. For the reasons discussed below, it is respectfully submitted that the amended claims are clearly patentable over the prior art of record.

Amended independent claim 1 recites an industrial robot having a joint, wherein the joint includes a first member and a second member rotatable relative to the first member. Further, claim 1 recites that the first member includes a first hole provided in the first member, with *the first hole being provided with a screw hole at a bottom of the first hole*. The first member of claim 1 also includes a first positioning member contained in the first hole, with the first positioning member being slidable through an inside of the first hole and projectable from the first hole, and with *the first positioning member being provided with a screw on one end thereof*.

Further, claim 1 recites that *the first hole and the first positioning member are arranged such that there is no mechanical backlash between the first hole and the first positioning member*, and that *the screw of the first positioning member is screwed into the screw hole of the first hole such that the first positioning member is attached to the first hole*. Claim 1 also recites that the second member includes a contacting portion arranged to contact the first positioning member when the first positioning member is projected from the first hole, and that *the first positioning member includes a retainer for a lubricant on a side thereof*.

Amended independent claim 2 recites an industrial robot having a joint, wherein the joint includes a first member and a second member rotatable relative to the first member. Further, claim 2 recites that the first member includes a first hole provided in the first member, with *the first hole being provided with a screw hole at a bottom of the first hole*. The first member of claim 2 also includes a first positioning member contained in the first hole, with the first

positioning member being slidable through an inside of the first hole and projectable from the first hole, and with *the first positioning member being provided with a screw on one end thereof*.

Further, claim 2 recites that *the first hole and the first positioning member are arranged such that there is no mechanical backlash between the first hole and the first positioning member*, and that *the screw of the first positioning member is screwed into the screw hole of the first hole such that the first positioning member is attached to the first hole*. Claim 2 also recites that the second member includes a contacting portion arranged to contact the first positioning member when the first positioning member is projected from the first hole, and that *the first positioning member includes a first marker on a side thereof, and the first marker specifically indicates a projection length of the first positioning member*.

JP 2002-239967 (hereinafter JP '967) discloses a robot which includes an upper arm 5 rotatably connected to a twist arm 6, and that the upper arm 5 includes a screw hole 24 and a positioning pin 25 screwed into the screw hole 24. JP '967 discloses that in a positioning operation, the pin 25 abuts against an abutment face 30 on the twist arm 6, and the positioning pin 25 is then removed.

However, as acknowledged by the Examiner on pages 3 and 6 of the Office Action, JP '967 does not disclose a first positioning member contained in the first hole, with the first positioning member being slidable through an inside of the first hole and projectable from the first hole, as required by independent claims 1 and 2. In this regard, the Examiner cites Miyasaka as disclosing an origin adjustment device which includes a first positioning member (locking pin 37) which is contained in a first hole and is projectable from the first hole, as shown in Fig. 6 of Miyasaka. Further, the Examiner indicates that it would have been obvious to one of ordinary skill in the art to modify the first positioning member of JP '967 so as to be contained in the first hole and to be projectable from the first hole based on the teachings of Miyasaka.

Further, as noted by the Examiner on page 4 of the Office Action, JP '967 does not disclose that *the first positioning member includes a retainer for a lubricant on a side thereof*, as required by claim 1. In this regard, the Examiner cites Gutknecht as disclosing the concept of placing a groove 38 on a side of a piston for retaining a lubricant, and concludes that it would have been obvious to modify the positioning pin of JP '967 to include a groove as taught by Gutknecht.

Similarly, as noted by the Examiner on page 6 of the Office Action, JP '967 does not disclose that *the first positioning member includes a first marker on a side thereof, and the first marker specifically indicates a projection length of the first positioning member*, as required by claim 2. In this regard, the Examiner cites Terzian as disclosing the concept of using a marker on a cam drum in order to indicate a starting position, and concludes that it would have been obvious to modify the positioning pin of JP '967 to include a marker to identify a desired position on the pin.

However, JP '967 does not disclose a first member which includes a first hole provided in the first member, with the first hole being provided with *a screw hole at a bottom of the first hole*, and a first positioning member contained in the first hole, with *the first positioning member being provided with a screw on one end thereof*, and that *the screw of the first positioning member is screwed into the screw hole of the first hole such that the first positioning member is attached to the first hole*, as required by independent claims 1 and 2.

Rather, JP '967 discloses that the positioning pin 25 is screwed into screw hole 24 such that threads on the positioning pin 25 engage grooves in the side surfaces of the screw hole 24, but does not disclose that the positioning pin is screwed into a screw hole at a bottom of the first hole so as to be attached to the first hole, as required by independent claims 1 and 2.

In addition, JP '967 does not disclose that the first hole and the first positioning member are arranged such that there is no mechanical backlash between the first hole and the first positioning member, as required by independent claims 1 and 2.

Miyasaka discloses a device in which a locking pin 37 is arranged within an engaging bore 38. However, Miyasaka does not disclose that the locking pin 37 is screwed into a screw hole at a bottom of the first hole so as to be attached to the first hole, as required by independent claims 1 and 2.

In addition, Miyasaka does not disclose that the locking pin 37 and the bore 38 are arranged such that there is no mechanical backlash between the first hole and the first positioning member, as required by independent claims 1 and 2.

Further, it is noted that none of the Gutknecht and Terzian references discloses that *a screw of a first positioning member is screwed into a screw hole at the bottom of a first hole such that the first positioning member is attached to the first hole*, and that *the first hole and the first*

positioning member are arranged such that there is no mechanical backlash between the first hole and the first positioning member, as required by independent claims 1 and 2.

Thus, as none of the JP '967, Miyasaka, Gutknecht and Terzian references discloses (1) that a screw of a first positioning member is screwed into a screw hole at the bottom of a first hole such that the first positioning member is attached to the first hole, and (2) that the first hole and the first positioning member are arranged such that there is no mechanical backlash between the first hole and the first positioning member, as required by independent claims 1 and 2, it is respectfully submitted that the combination of the JP '967, Miyasaka, Gutknecht and Terzian references does not disclose or suggest all of the limitations of independent claims 1 and 2.

Therefore, for the reasons presented above, it is believed apparent that the present invention as recited in independent claims 1 and 2 is not disclosed or suggested by the JP '967 reference, the Miyasaka reference, the Gutknecht reference and the Terzian reference taken either individually or in combination. Accordingly, a person having ordinary skill in the art would clearly not have modified the JP '967 reference in view of the Miyasaka reference and the Gutknecht reference or the Terzian reference in such a manner as to result in or otherwise render obvious the present invention of independent claims 1 and 2.

Further, it is respectfully submitted that the additional references applied by the Examiner in the rejections of the dependent claims do not cure the defects of the JP '967 reference, the Miyasaka reference and the Gutknecht and Terzian references, as discussed above.

Therefore, it is respectfully submitted that independent claims 1 and 2, as well as claims 3-25 which depend therefrom, are clearly allowable over the prior art of record.

In addition, it is noted that independent claims 1 and 2 are generic to the non-elected dependent claims 6-8, 10, 16-19 and 23. As independent claims 1 and 2 are patentable over the applied prior art for the reasons discussed above, it is respectfully requested that withdrawn claims 6-8, 10, 16-19 and 23 be rejoined with the elected claims and similarly be considered to be patentable.

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice to that effect is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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